



# BHARATHIDASAN UNIVERSITY

Tiruchirappalli- 620024  
Tamil Nadu, India.

**Programme: M.Sc., Biomedical Science**

**Course Title : Clinical Microbiology**

**Course Code : 18BMS48C15**

**Unit-IV**

**TOPIC: Hepatitis**

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# HEPATITIS

# INTRODUCTION

▶ What is hepatitis:

Hepatitis refers to an inflammatory condition of the **liver**. It is commonly the result of a viral infection, but there are other possible causes of hepatitis.

The five main viral classifications of hepatitis are hepatitis A, B, C, D and E.

# Hepatitis C

- ▶ Hepatitis C is a viral infection that causes liver inflammation, sometimes leading to serious liver damage. the hepatitis C virus (HCV) spreads through contaminated blood.

## Symptoms

Long term infection with the hepatitis C virus is known as chronic hepatitis C. chronic hepatitis C is usually a "silent" infection for many years, until the virus damages the liver enough to cause the signs and symptoms of liver disease.



▶ Symptoms include:

Bleeding easily

fatigue

Dark colored urine

Swelling in your legs

weight loss

# causes

- ▶ Hepatitis C infection is caused by the hepatitis C virus (HCV). The infection spreads when blood contaminated with the virus enters the bloodstream of an uninfected person.
- ▶ Although chronic hepatitis follows a similar course regardless of the genotype of the infecting virus, treatment recommendations vary depending on viral genotype.

# RISK FACTORS

- ▶ Are a health care worker who has been exposed to infected blood, which may happen if an infected needle pierces your skin.
- ▶ Have HIV
- ▶ Received a blood transfusion or organ transplant before 1992.

## COMPLICATION

**scarring of the liver(cirrhosis).**After decades of hepatitis C infection, cirrhosis may occur. scarring in your liver makes it difficult for your liver to function.

- ▶ **Liver cancer.** A small number of people with hepatitis C infection may develop liver cancer
- ▶ **Liver failure.** Advanced cirrhosis may cause your liver to stop functioning

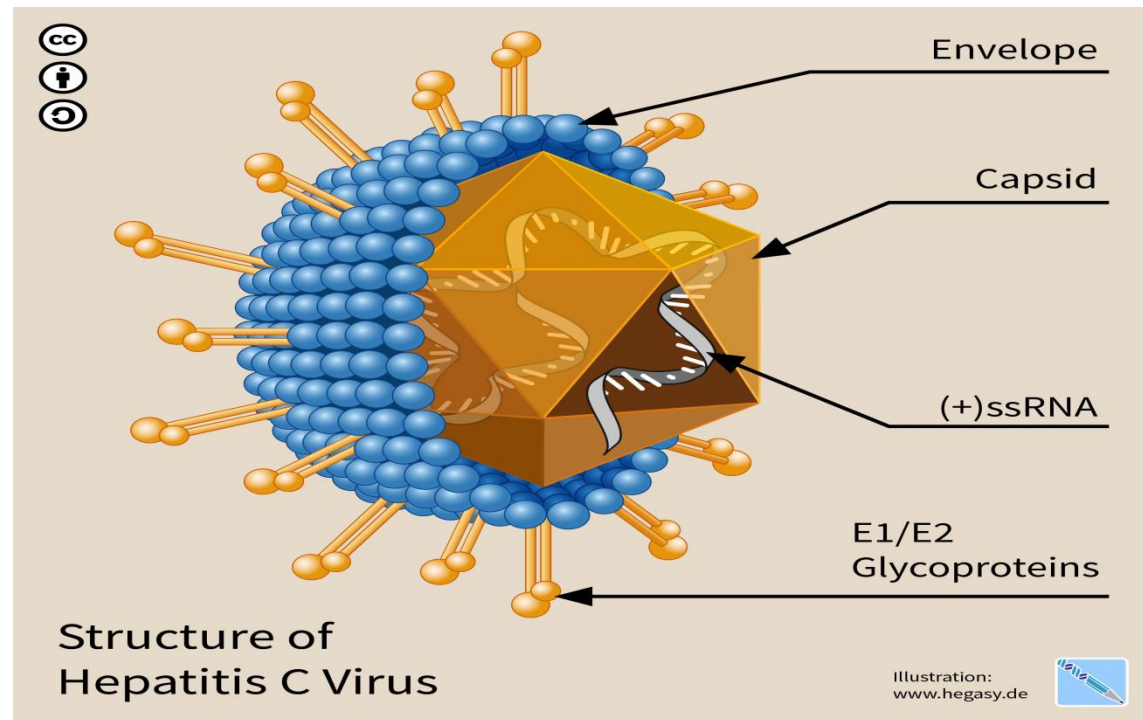
## DIAGNOSIS:

- Anyone who has ever injected or inhaled illicit drugs
- Anyone who has abnormal liver function test results with no identified cause
- Babies born to mothers with hepatitis C
- Health care and emergency workers who have been exposed to blood or accidental needle sticks



- ▶ **Magnetic resonance elastography (MRE).** A noninvasive alternative to a liver biopsy (see below), MRE combines magnetic resonance imaging technology with patterns formed by sound waves bouncing off the liver to create a visual map showing gradients of stiffness throughout the liver. Stiff liver tissue indicates the presence of scarring of the liver (fibrosis) as a result of chronic hepatitis C.
- ▶ **Transient elastography.** Another noninvasive test, transient elastography is a type of ultrasound that transmits vibrations into the liver and measures the speed of their dispersal through liver tissue to estimate its stiffness.
- ▶ **Liver biopsy.** Typically done using ultrasound guidance, this test involves inserting a thin needle through the abdominal wall to remove a small sample of liver tissue for laboratory testing.
- ▶ **Blood tests.** A series of blood tests can indicate the extent of fibrosis in your liver.

# STRUCTURE



# HEPATITIS D

- ▶ Hepatitis D is a liver infection you can get if you have hepatitis B. It can cause serious symptoms that can lead to lifelong liver damage and even death. It's sometimes called hepatitis delta virus (HDV) or delta hepatitis.

## HEPATITIS D SYMPTOMS

- ▶ Yellow skin and eyes (jaundice)
- ▶ Stomach upset
- ▶ Pain in your belly
- ▶ Throwing up
- ▶ Fatigue
- ▶ Not feeling hungry
- ▶ Joint pain



## **Risk Factors**

Inject drugs

Have sex with someone who has hepatitis B or D

Have HIV and hepatitis B

## **Hepatitis D Transmission**

Have sex with someone who has the virus

Share needles used to inject drugs

Touch the open sores of someone who has the virus

Get a needle stick that was in contact with an infected person

Share personal items like razors or toothbrushes that may have touched an infected person's blood.

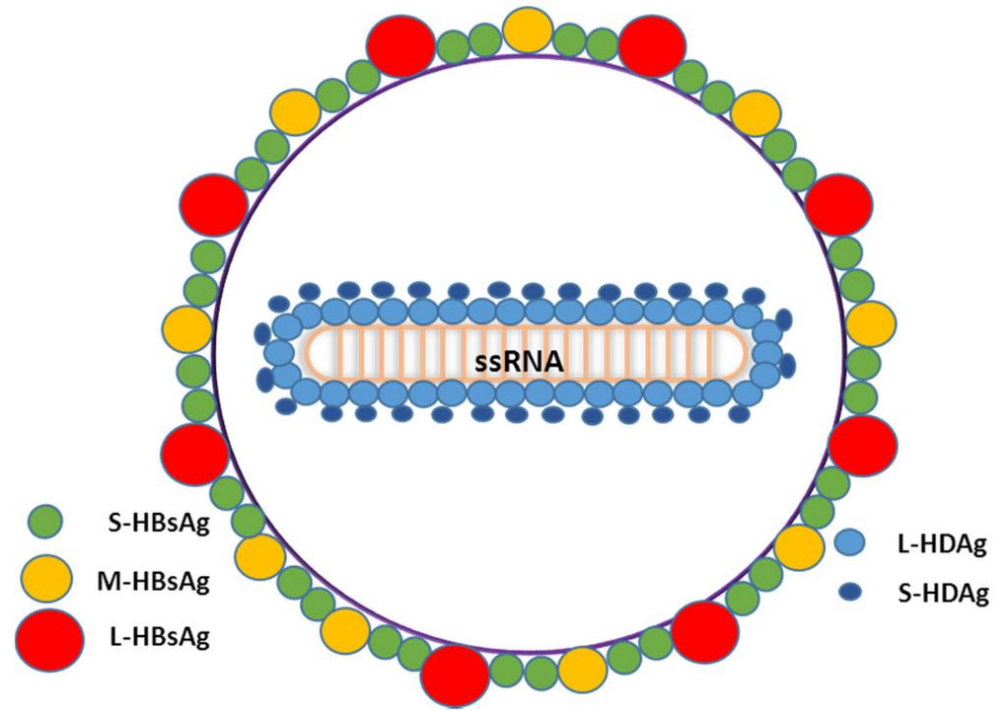
## **Hepatitis D Diagnosis**

- ▶ Your doctor will ask questions about your symptoms and lifestyle, then do an exam. They'll test your blood for the different types of hepatitis. If you have it, your doctor will do more bloodwork and imaging tests to check your liver for signs of damage.

## **Hepatitis D Treatment**

- ▶ If you have HDV, you may need to see a doctor who works with diseases of the digestive tract, including the liver, such as a gastroenterologist. Doctors called hepatologists specialize even further and treat only liver disease.

# HEPATITIS D VIRUS STRUCTURE



# HEPATITIS E VIRUS

- ▶ Hepatitis E is a virus that infects your liver. It can cause your liver to swell up.

Most people with hepatitis E get better within a few months. Usually it doesn't lead to long-term illness or liver damage like some other forms of hepatitis do. But hepatitis E can be dangerous for pregnant women or anyone with weak immune systems, including the elderly or people who are ill.

## **Causes**

The hepatitis E virus spreads through poop. You can catch it if you drink or eat something that has been in contact with the stool of someone who has the virus. Hepatitis E is more common in parts of the world with poor handwashing habits and lack of clean water. It happens less often in the U.S., where water and sewage plants kill the virus before it gets into the drinking supply.

## Symptoms

- ▶ You might not have any. If you do have symptoms, they may start anywhere from 2 to 6 weeks after your infection. They may include:
  - ▶ Mild fever
  - ▶ Feeling very tired
  - ▶ Light-colored poop
  - ▶ Skin rash or itching
  - ▶ Joint pain
  - ▶ Yellowish skin or eyes



# DIAGNOSIS

Your doctor will ask for your medical history and details about your symptoms. Tell your doctor about any recent travel. Tell them if you think you might have had contact with water contaminated by sewage.

Your doctor will use a blood test or a stool test to diagnose hepatitis E.

## **TREATMENT**

In most cases, hepatitis E goes away on its own in about 4-6 weeks. These steps can help ease your symptoms:

Rest

Eat healthy foods

Drink lots of water

Avoid alcohol

Check with your doctor before you take any medicine that may damage your liver, such as acetamino.

# PREVENTION

- ▶ No vaccine can prevent the hepatitis E virus. It's most common in less-developed countries in Asia, the Middle East, Africa, and Central America. You can lower your chances of getting the virus if you:

Don't drink water or use ice that you don't know is clean.

Wash your hands with soap and water after you use the bathroom, change a diaper, and before you prepare or eat food.:

# REFERENCES

- ▶ **Mathers BM, et al. Global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review. Lancet. 2008;372(9651):1733–1745. (PubMed)**
- ▶ **Nelson PK, et al. Global epidemiology of hepatitis B and hepatitis C in people who inject drugs: results of systematic reviews. Lancet. 2011;378(9791):571–583. [PMC free article] (PubMed).**
- ▶ **Vaccines and Immunizations. Hepatitis B. The Pink Book: Course Textbook – 13th Edition (2015).**



THANK YOU